

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the outstanding grounds of objection and rejection are respectfully requested in light of the above amendments and the remarks that follow.

The Examiner has objected to claim 7 on the basis of a typographical error in the second line from the end of claim 7. By this Amendment, applicants have corrected the informality.

The Examiner has rejected claims 1, 2, 6, 7 and 9 under 35 U.S.C. § 103 as unpatentable over Obrochta et al. (U.S. 4,283,835) in view of the prior art acknowledged in paragraph 2 of the specification and further in view of either of Willet (EP 1022434) or Lee (U.S. 6,234,753).

With regard to the primary reference to Obrochta, the Examiner acknowledges that the pair of legs in the core of Obrochta are not coplanar; that the pegs are not of elliptical cross-section; and that the slot is not an elongated open slot extending from a lower end of the core upwardly more than half a height dimension of the core. The Examiner relies on the acknowledgment in paragraph 2 of the application as filed that a prior core included a “pants-leg” shaped core operable to form a pair of cooling passages in a turbine bucket. Note that paragraph 2 of the specification does not acknowledge or admit that the leg portions of the core are in fact coplanar.

The Examiner also acknowledges that Obrochta as combined with the acknowledged prior art fails to suggest pegs of elliptical cross-section or a core having an elongated open slot extending from a lower end of the core upwardly more than half a height dimension of the core. Thus, the Examiner relies upon Willet for its disclosure in Figure 1 of a gas turbine blade cooling configuration having an array of cooling circuit dividing channels “that must be manufactured by one or more cores having an elongated open slot extending from a lower end of the core upwardly more than half a height dimension of the core” The Examiner relies upon Lee as

illustrating core tie holes 42, 142, preferably elliptical in cross-section as well as a turbine airfoil having an array of cooling circuit dividing channels that “must be manufactured by one or more cores having an elongated open slot extending from a lower end of the core upwardly more than half a height dimension of the core.” Thus, the Examiner contends that it would have been obvious to modify the core disclosed in Obrochta by using a coplanar pants leg shaped core, utilizing pegs with elliptical cross-sectional shapes, and with an elongated open slot extending from a lower end of the core upwardly more than half a height dimension of the core.


In the first instance, and as the Examiner will readily appreciate, any modification of Obrochta to have the substantially 90° legs of the core made coplanar would effectively destroy the core for its intended purpose and in fact prevent formation of the desired blade shape. In addition, there would be no reason to modify the slot or groove 37 as suggested by the Examiner since there are no internal cooling passages within the turbine airfoil described in Obrochta. Thus, the reconstruction of Obrochta as proposed by the Examiner is only viable through the utilization of impermissible hindsight gained from applicants’ own disclosure. Moreover, and in any event, applicants have amended both claims 1 and 7 to more clearly distinguish over Obrochta and particularly with respect to the orientation of the core pegs. Specifically, claim 1 has been amended to require a pair of axially aligned pegs projecting in axially opposite directions from opposite sides of the solid curved upper body portions, perpendicular to and above the elongated slot. The claim also requires that the pegs lie in substantially the same plane as the plane containing the coplanar legs. This limitation finds its support in Figures 2 and 5 of the application as filed and is nowhere disclosed or suggested in Obrochta with or without reliance on the additional secondary and alternative tertiary references cited and relied upon by the Examiner.

Similarly, independent claim 7 requires that the pair of legs lie in a common plane and that the pegs lie substantially in that same common plane, with the further limitation that the pegs extend perpendicular to the elongated open slot. This arrangement of the pegs in relation to both the legs of the core and the elongated open slot of the core is neither disclosed nor even remotely suggested in the prior art as cited and applied by the Examiner.

Accordingly, all of the remaining claims 1, 2, 6, 7 and 9 are now in condition for allowance and early passage to issue is requested. In the event, however, any small matters remain outstanding, the Examiner is encouraged to telephone the undersigned so that the prosecution of this application can be expeditiously concluded.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 
Michael J. Keenan
Reg. No. 32,106

MJK:rrl
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100